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PST (Place Syntax Tool) workshop

Open-source tool combining space syntax and attraction analysis

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ABSTRACT

Place Syntax Tool (PST) is a tool that combines the space syntax description of urban environment with conventional descriptions of attraction into a combined accessibility analysis tool. This allows both for conventional space syntax analysis based on the axial map, and angular segment analysis (ASA) based on the road centre line map, but especially, it opens possibilities to include attractions in the analysis, as either origins or destinations. PST was first introduced by Ståhle et al. (2005) at the 5th Space Syntax Symposium in Delft and since then, it was further developed at KTH School of Architecture and Spacescape AB, and more recently by the SMoG (Spatial Morphology Group) at Chalmers School of Architecture, Sweden.

In 2017, PST was launched as an open-source software that is a plugin to the open-source GIS software QGIS and as such, allowed a wide audience to start using it. The application, documentation and data are available via KTH and Chalmers: http://smog.chalmers.se/PST and https://www.arch.kth.se/forskning/urban-design/software.

The halfday workshop at the 13th Space Syntax Symposium in Bergen is aiming at introducing the tool to a wider audience and participants can be either practitioners or researchers. However, some pre-knowledge of QGIS is required to participate. We will show some of the main features of PST with a simple dataset we will provide, and you will learn to use them via four short exercises that include:

1. Angular Integration
2. Angular Betweenness
3. Attraction Distance

4. Attraction Reach

Besides these exercises, we will also show some features that are included in the tool that are very handy when it comes to the preparation of the data, such as the “Create segment map” function and some functionalities we added since the last workshop in Beijing. Further, we will demonstrate some not so well-known functionalities that were partly presented at the 11th Space Syntax conference in Lisbon (Stavroulaki et al. 2017). Here, different representations of the street network and related graphs were discussed including the possibility to parametrically redefine the relation between them, which we now have integrated in PST. This latter part of the workshop will be in the form of a demonstration, while the earlier part is organised around four concrete exercises.

KEYWORDS

Place Syntax Tool, Space Syntax, Accessibility analysis, Attraction analysis, QGIS

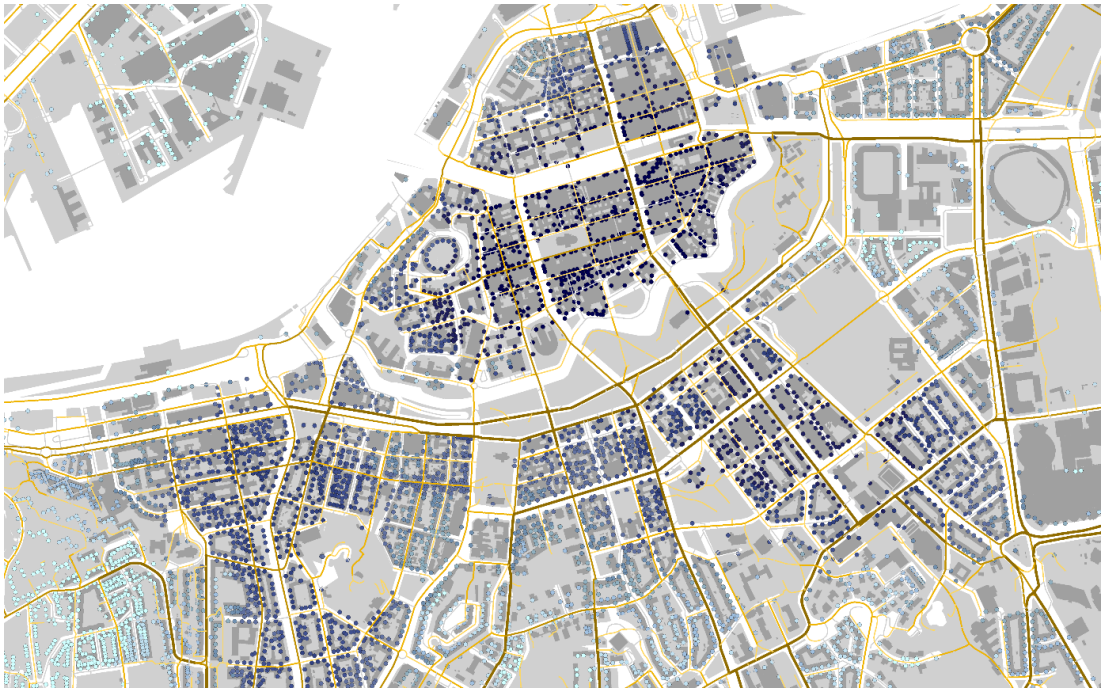

Figure 1: Gothenburg centre with Angular Betweenness centrality and Accessibility to local markets combined (SMoG, 2017)

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